REMARKS

Claims 1 and 3-22 are pending in this application. Claims 1 and 7 are the independent claims. Claims 1 and 7 are amended. Claim 2 was previously cancelled. Reconsideration and allowance of the present application

Rejections under 35 U.S.C. §103 – *Jacobus in view of Rice*

Claims 1, 5, 7-8, 11-12, and 14-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,769,640 ("Jacobus") in view of U.S. Patent 6,310,619 ("Rice"). This rejection is respectfully traversed.

With regard to independent claim 1, the Examiner asserts that Jacobus discloses all of the claim limitations with the exception that Jacobus does not disclose that all of the local anatomic environments of the library are separately modeled, the local anatomic environments modeled to represent anatomic variations occurring in living beings, and including the selected local anatomic environment in said main virtual anatomic environment to form said virtual anatomic environment, the selection of different combinations of selected local anatomic environments in said main virtual anatomic environment thereby allowing generation of different virtual environments, each different virtual environment representing anatomic variations occurring in living beings. The Examiner asserts that Rice discloses these missing limitations. The Examiner asserts that it would have been obvious to a person of ordinary skill in the art to modify Jacobus's invention in view of Rice in order to provide a computer implemented virtual reality, tissue specific body model that increases the efficiency and accuracy of anatomical study in an environment having user-variable physical and environmental properties as taught by Rice. Applicant asserts that Jacobus in

view of Rice does not teach or suggest "selecting a local anatomic environment from a predefined library comprising a set of two or more local anatomic environments, all of the local anatomic environments of the library being *separately modelled three-dimensional models each representing an individual anatomic variation in a local internal area of a living being*," as recited in claim 1.

Applicant submits that Jacobus teaches a method of measuring and recording sights and sounds of a medical procedure, for accurate play back of the recording to generate new information to emulate responses to alternative actions taken by a surgeon trainee during simulation. The Jacobus method appears to be best summarized in column 4, lines 30-38, which cites two basic functions of the method. Specifically, the first function of Jacobus is "*measuring and recording*," and the second function is "*accurately playing back . . . using the recorded data*." Applicant submits that the purpose of Jacobus is to fully *record* (as opposed to "*simulate*") medical procedures, one procedure at a time, in order to compile images for later playback. Images not fully recorded during the medical procedure itself, may be supplemented with images taken from other "medical diagnostics or image modalities," described in column 4, lines 5-9 of Jacobus to include CT data, PET data, MRI data, etc. Applicant asserts that the *measuring*, *recording*, and *accurate playback of recorded data images* (both images that are taken during the recording of the initial procedure, as well as images taken during "medical diagnostics"), is not providing a library of "local anatomic environments," all of the local anatomic environments being "*separately modelled three-dimensional models*," as recited in claim 1. Specifically, Applicant asserts that Jacobus is not "*modeling*" the "local anatomic environments," as recited in claim 1, but rather Jacobus is only *measuring* and *recording* images. And for at least

this reason, Applicant asserts that Jacobus does not teach all of the limitations of claim 1.

Furthermore, Applicant asserts that Jacobus does not teach "all of the local anatomic environments of the library being separately modelled three-dimensional models *each representing an individual anatomic variation in a local internal area of a living being*," as recited in claim 1. The purpose of Jacobus is to *measure* and *record* images for accurate *playback*, and any images that Jacobus does not collect through the initial recording of the medical procedure, are then supplemented by diagnostic images. Jacobus does not teach, anywhere in the reference, that *each* of the "local anatomic environments" systematically represents a different "anatomic variation" occurring in a living being. At best, Jacobus allows for the *measurement / recording* of images during a medical procedure, or during medical diagnostics, which may capture some miscellaneous "*anatomic variations*," by luck or chance. However, Jacobus does not purposefully produce a library comprised of separately modeled "local anatomic environments," where *each* environment represents an anatomic variation in a living being. And for at least this reason, Applicant asserts that Jacobus does not teach "all of the local anatomic environments of the library being separately modelled three-dimensional models *each representing an individual anatomic variation in a local internal area of a living being*," as recited in claim 1.

Furthermore, Applicant submits that because Jacobus is not modeling local anatomic environments "*each representing an individual anatomic variation in a local internal area of a living being*," as recited in claim 1, Applicant therefore asserts that Jacobus also does not teach different "*virtual environments*" created by selecting different local anatomic environments, such that "*each different virtual environment*

[represents] anatomic variations occurring in living beings," as recited in claim 1. And for at least this reason, Applicant asserts that Jacobus does not teach "the selection of different combinations of selected local anatomic environments in said main virtual anatomic environment thereby allowing generation of different virtual environments, *each different virtual environment representing anatomic variations occurring in living beings*," as recited in claim 1.

With regard to the Rice patent, Rice discloses a three dimensional virtual reality tissue specific model of living beings that includes a database of cryosection images taken from CT and MRI images to develop a comprehensive database of anatomical models, as described in column 5, lines 13-29. Applicant asserts that a collection of miscellaneous CT and MRI cryosection images does not teach or suggest a method providing local anatomic environments "*each representing an individual anatomic variation in a local internal area of a living being*," as recited in claim 1. Rather, Applicant submits that Rice provides a miscellaneous compilation of images, some of the images showing "anatomic variations," by luck or happenstance, and other images not showing an "anatomic variation." Specifically, Applicant asserts that Rice does not disclose a predefined library providing "local anatomic environments" where each *one* "local anatomic environment" systematically portrays *one* "variation" of a local internal area of a living being. For at least this reason, Applicant asserts that neither Jacobus, nor Rice, either singly or in combination with each other, teach or suggest "selecting a local anatomic environment from a predefined library comprising a set of two or more local anatomic environments, all of the local anatomic environments of the library being *separately modelled three-dimensional models each representing an individual anatomic variation in a local internal area of a living being*," as recited in claim 1.

Applicant further asserts that Jacobus in view of Rice does not teach or suggest "including the selected local anatomic environment in said main virtual anatomic environment to form said virtual anatomic environment, the selection of different combinations of selected local anatomic environments in said main virtual anatomic environment thereby allowing generation of different virtual environments, *each different virtual environment representing anatomic variations occurring in living beings*," as recited in claim 1. Applicant submits that becuase Jacobus and Rice do not disclose local anatomic environements where *each* environment represents an indivial "anantomic variation in a local internal area of a living being," Jacobus in view of Rice therefore does not teach or suggest including a selected local anatomic environment in a "main virtual anamotic envionrment" creating a "virtual environment" where *each* "virtual environment" represents a different anatomic variation occurring in a living being. For at least this additional reason, Applicant asserts that Jacobus in view of Rice does not teach or suggest all of the limitations of claim 1.

With regard to dependent claim 21, Applicant asserts that Jacobus in view of Rice does not teach or suggest "*wherein components included in the local anatomic environment are excluded in the main virtual anatomic environment*," as recited in claim 21. Specifically, Applicant submits that column 4, lines 1-38 of Jacobus does not teach or suggest a "*local anatomic environment*" that is separate from a "*main virtual anatomic environment*," as recited in claim 21. Applicant submits that Jacobus does not pertain to the efficient modelling of anatomic environments including a predefined library of "local anatomic environments" where different "local anatomic environments" can be selected as subcomponents of a "main virtual anatomic environment," and

therefore Jacobus does not disclose or even need to contemplate providing a "*local anatomic environment*" that is separate from a "*main virtual anatomic environment*," as recited in claim 21. Applicant asserts that a review of Rice indicates that Rice does not remedy the deficiencies of Jacobus. Rice discloses a three dimensional tissue specific model of a living being including a database compilation of cross sectional images taken from CT and MRI scanned images, but Rice does not disclose or even contemplate a "*local anatomic environment*" separate from a "*main virtual anatomic environment*." For at least these reasons, Applicant asserts that neither Jacobus, nor Rice, either singly or in combination with each other, teach or suggest "*wherein components included in the local anatomic environment are excluded in the main virtual anatomic environment*," as recited in claim 21.

With regard to independent claim 7 and dependent claim 22, Applicant asserts that these claims contain features similar to independent claim 1 and dependent claim 21, respectively.

For at least the reasons stated above related to independent claims 1 and 7, and dependent claim 21 and 22, Applicant asserts that these claims are patentable. Due at least to the dependence of claims 5, 8, 11-12, and 14-20 on the independent claims, Applicant also asserts that these claims are patentable. Therefore, Applicant respectfully requests that this art ground of rejection of these claims under 35 U.S.C. §103 be withdrawn.

Rejections under 35 U.S.C. §103 – *Jacobus in view of Rice and further in view of Ramshaw*

Claims 3-4, 6, 9-10, and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jacobus in view of Rice and further in view of U.S. Patent 5,791,907 ("Ramshaw"). This rejection is respectfully traversed.

With regard to dependent claim 3, the Examiner concedes that Jacobus in view of Rice fails to teach the step of randomly selecting one of the local anatomic environments in the library.[1] The Examiner asserts that Ramshaw teaches this limitation, as the Examiner cites column 17, lines 9-12 of Ramshaw in making this assertion. Applicant submits that Ramshaw is an interactive medical training system used to provide education and training in medical procedures. Column 17, lines 9-12 indicates that Ramshaw allows for the simulation of *random and unexpected* ***errors*** *during a medical procedure*. Column 17, lines 13-16 provides an example of an "*error*," as in the case where a user may properly select the use of a balloon dissector in a medical procedure where the medical procedure equipment may nevertheless illustrate improper balloon placement. Ramshaw's use of randomly simulated *unexpected* ***errors*** does not teach or suggest randomly selecting between "*local anatomic environments*," as recited in claim 1. And therefore the Examiner's assertion that Ramshaw *randomly selects* between "local anatomic environments" is without merit. Applicant therefore asserts that neither Jacobus, nor Rice, nor Ramshaw, either singly or in combination with each other, teach or suggest "wherein the step of selecting a local anatomic environment from a predefined library comprising two or more of local anatomic

[1] Page 5 of the current Office Action.

environments further comprises the step of *randomly selecting one of the local anatomic environments in the library*," as recited in claim 3.

With regard to dependent claim 4, Applciant asserts that Jacobus in view of Rice and further in view of Ramshaw, does not teach or suggest "*wherein the probability of randomly selecting a certain local anatomic environment essentially corresponds with the degree of occurrence of that local anatomic environment in living beings*," as recited in claim 4. Applicant submits that column 17, lines 25-31 of Ramshaw only disclose simulating random ***errors*** occurring in a medical procedure, rather than providing randomly selected "*local anatomic environments*" that correspond with the degree of occurrence that the "*local anatomic environment*" would have in a living beings. Applicant asserts that Jacobus in view of Rice does not remedy this deficiency of Ramshaw. Applicant asserts that because Jacobus in view of Rice does not disclose randomly selecting between "local anatomic environments," as recited in base claim 3, Applicant therefore also asserts that Jacobus in view of Rice also does not disclose the random selection of a "local anatomic environment" that corresponds to the degree of occurrence the "local anatomic environment" has in a living being. For at least this reason, Applicant asserts that neither Jacobus, nor Rice, nor Ramshaw, either singly or in combination with each other, teach or suggest "*wherein the probability of randomly selecting a certain local anatomic environment essentially corresponds with the degree of occurrence of that local anatomic environment in living beings*," as recited in claim 4.

With regard to dependent claims 9 and 10, Applicant asserts that these claims contain features similar to claims 3 and 4, respectively, such that at least the same arguments can be made.

For at least the reasons stated above related to dependent claims 3, 4, 9, and 10, Applicant asserts that these claims are patentable. Due at least to the dependence of claims 6 and 13 on the independent claims, Applicant also asserts that these claims are patentable. Therefore, Applicant respectfully requests that this art ground of rejection of these claims under 35 U.S.C. §103 be withdrawn.

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CONCLUSION

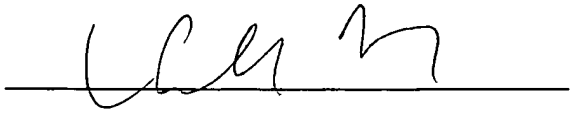
In view of the above remarks and amendments, Applicant respectfully submits that each of the rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Pursuant to 37 CFR §§ 1.17 and 1.136(a), Applicants petition for a two (2) month extension of time for filing a reply to the October 17, 2008 Office Action, and submit the required $460 extension fee herewith.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,
HARNESS, DICKEY, & PIERCE, P.L.C.

By 

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